

# isc Silicon PNP Power Transistor

**MJL21193**

## DESCRIPTION

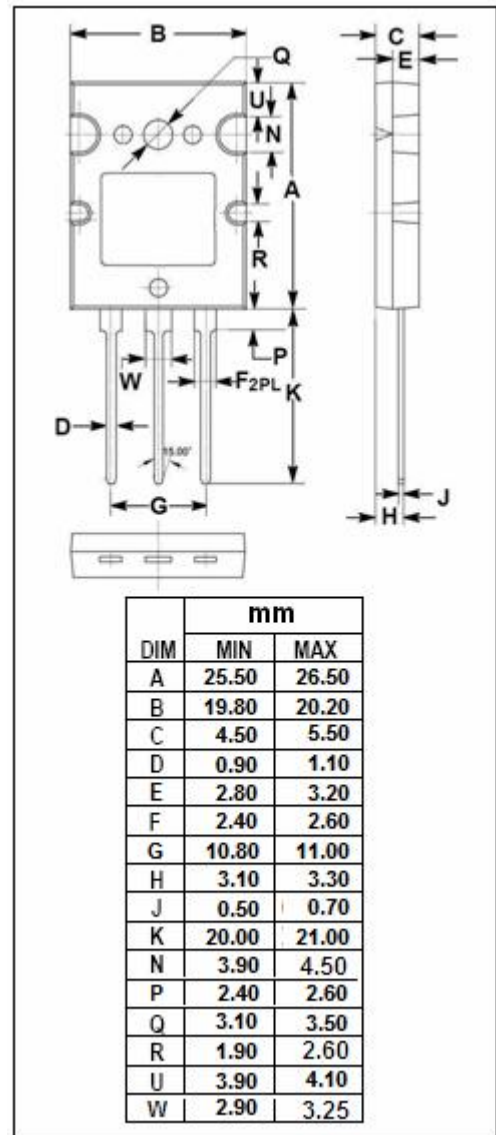
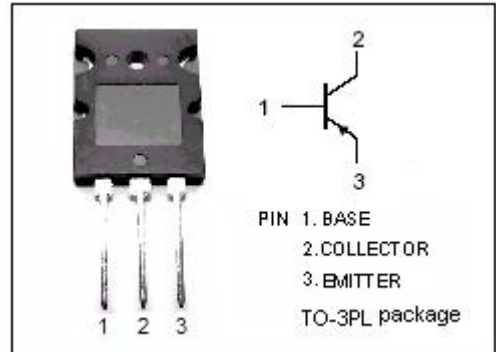
- High Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = -250V(\text{Min})$   
High DC Current Gain –  $h_{FE} = 25 \text{ Min @ } I_C = 8 \text{ Adc}$
- Complement to Type MJL21194
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

Perforated Emitter technology  
high power audio output, disk head positioners  
linear applications

## ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )

| SYMBOL    | PARAMETER                                               | VALUE   | UNIT             |
|-----------|---------------------------------------------------------|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                                  | -400    | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                               | -250    | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                    | -5      | V                |
| $I_C$     | Collector Current-Continuous                            | -16     | A                |
| $I_B$     | Base Current-Continuous                                 | -5      | A                |
| $P_C$     | Collector Power Dissipation<br>@ $T_C=25^\circ\text{C}$ | 200     | W                |
| $T_J$     | Junction Temperature                                    | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                               | -55~150 | $^\circ\text{C}$ |



**isc Silicon PNP Power Transistor****MJL21193****ELECTRICAL CHARACTERISTICS****T<sub>C</sub>=25°C unless otherwise specified**

| SYMBOL               | PARAMETER                                                   | CONDITIONS                                           | MIN  | TYP. | MAX  | UNIT |
|----------------------|-------------------------------------------------------------|------------------------------------------------------|------|------|------|------|
| V <sub>(BR)CEO</sub> | Collector-Emitter Breakdown Voltage                         | I <sub>C</sub> = -50mA; I <sub>B</sub> = 0           | -250 |      |      | V    |
| V <sub>CE(sat)</sub> | Collector-Emitter Saturation Voltage                        | I <sub>C</sub> = -8.0A; I <sub>B</sub> = -0.8A       |      |      | -1.4 | V    |
| V <sub>CE(sat)</sub> | Collector-Emitter Saturation Voltage                        | I <sub>C</sub> = -16A; I <sub>B</sub> = -3.2A        |      |      | -4.0 | V    |
| V <sub>BE(on)</sub>  | Base-Emitter On Voltage                                     | I <sub>C</sub> = -8A; V <sub>CE</sub> = -5V          |      |      | -2.2 | V    |
| I <sub>CEO</sub>     | Collector Cutoff Current                                    | V <sub>CE</sub> = -200V; I <sub>E</sub> = 0          |      |      | -100 | μ A  |
| I <sub>EBO</sub>     | Emitter Cutoff Current                                      | V <sub>EB</sub> = -5V; I <sub>C</sub> = 0            |      |      | -100 | μ A  |
| h <sub>FE-1</sub>    | DC Current Gain                                             | I <sub>C</sub> = -8A; V <sub>CE</sub> = -5V          | 25   |      | 75   |      |
| h <sub>FE-2</sub>    | DC Current Gain                                             | I <sub>C</sub> = -16A; V <sub>CE</sub> = -5V         | 8    |      |      |      |
| C <sub>OB</sub>      | Output Capacitance                                          | I <sub>E</sub> =0; V <sub>CB</sub> = -10V; f= 1.0MHz |      |      | 500  | pF   |
| f <sub>T</sub>       | Current-Gain—Bandwidth Product                              | I <sub>C</sub> =-1A ; V <sub>CE</sub> = -10V         | 4    |      |      | MHz  |
| I <sub>S/b</sub>     | Second Breakdown Collector Current with Base Forward Biased | V <sub>CE</sub> = 50V,t= 1.0s                        | 4    |      |      | A    |
|                      |                                                             | V <sub>CE</sub> = 80V,t= 1.0s                        | 2.25 |      |      | A    |

**isc Silicon PNP Power Transistor****MJL21193****NOTICE:**

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